APPENDIX B

SELECTION OF COMPARISON SITES

T he ideal comparison sites for each demonstration are those locations that would experience the same trends in elderly FSP participation as the demonstration site, all else being equal (that is, they would reflect the trends of the demonstration site if the demonstration was never implemented). In designing this evaluation, we identified for each demonstration up to 10 comparison sites in the same state that we expected would experience similar participation patterns.

The process of identifying comparison sites involved two steps. The first step was to use a "similarity index" (defined below) to identify preliminary comparison sites—sites that were most similar to the pilot site based on key observable characteristics. The second step was to discuss with state officials the preliminary comparison sites to determine whether these sites differ from the pilot sites in terms of characteristics not easily measured by the similarity index.

To construct the similarity index for each possible comparison site, we selected six key characteristics that are correlated with changes in elderly FSP participation:

1. The number of elderly FSP participants at the site in a specific month of 2001[1]

2. The percentage change in elderly FSP participation from 2000 to 2001[2]

3. The percentage of all elderly individuals at the site that participate in the FSP[3]

4. The percentage of all individuals at the site that are elderly[4]

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[1] Measures of elderly FSP participation were obtained from the state food stamp programs. The counts typically referred to one month in the fall of 2001.

[2] Measures of the change in elderly FSP participation were calculated by using elderly participation counts from the same months of 2000 and 2001. Elderly participation counts were obtained from the state food stamp programs.

[3] The percent of elderly that participate in the FSP was calculated using administrative counts of the number of elderly participants divided by the total number of elderly individuals in the site (obtained from the 2000 decennial Census).

5. The percentage of all individuals at the site that are nonwhite[5]

6. The population density of the site[6]

Sites that are similar along these six characteristics are more likely to have similar changes in the elderly FSP caseload over time.

The similarity index was designed to rank all sites in each state based on how similar they are to the pilot site. The index accounted for differences across sites in the size and range of values for each characteristic. The differences were calculated as absolute values, so that a difference in one direction for one characteristic did not compensate for a difference in the reverse direction on another item.

Additionally, the differences in the characteristic values were measured in relative terms. Specifically, we divided each absolute difference by the total range in values (computed over the potential comparison sites and the demonstration site). The advantage of this process was that if the pilot site had the maximum (minimum) value on the characteristic, a comparison site with the minimum (maximum) value would receive a relative difference value of 1.0 (representing a 100 percent deviation from the demonstration site). Similarly, if the demonstration site had a middle value on the characteristic, a comparison site with a minimum or maximum value would receive a difference value of .50 (representing a 50 percent departure from the demonstration site). Hence, with this approach, the relative differences ranged from 0 to 1 and could be interpreted like a percentage that reflects the relative departure of the comparison site from the demonstration site in question. The contribution of each characteristic to the overall index was determined using a set of weights. The comparison site(s) with the lowest score on the index were estimated to be the comparison site(s) that most closely matched the demonstration site with respect to the considered factors.

Formally, this type of metric was computed as in equation (1) below.

$$(1) \qquad Index = \sum_i w_i \left[\frac{\left| X_{C,i} - X_{D,i} \right|}{X_{MAX,i} - X_{MIN,i}} \right]$$

(*continued*)

[4]The percent of the population that is elderly was calculated using data from the 2000 decennial Census. Elderly individuals are defined in the Census as people age 65 and over.

[5]The percent of the population that is nonwhite was calculated using data from the 2000 decennial Census.

[6]The population density, which is equal to the number of people per square mile, was calculated using data from the 2000 decennial census.

In equation (1), $X_{C,i}$ denotes the value for a specific characteristic (e.g., the number of elderly FSP participants), indexed by i, for a prospective comparison site. Likewise $X_{D,i}$ denotes the corresponding value from the demonstration site, and $X_{MAX,i}$ and $X_{MIN,i}$ denote the maximum and minimum values of this characteristic among all potential comparison sites (and the demonstration sites). Finally, w_i is the weight that each characteristic is given in computing the index.

The weights used in the similarity index reflected the relative amount of influence that a change in each characteristic was estimated to have in affecting elderly FSP participation. Using site-level data from the demonstration states, we estimated a regression equation to determine the relationship that each similarity index component characteristic had on changes in FSP participation. The coefficients from the regression equation were used to construct the weights for the similarity index. Formally, we estimated the following regression equation:

$$(2) \qquad \Delta P_i = \alpha X1_i + \delta X2_i + \phi X3_i + \gamma X4_i + \eta X5_i + \varpi X6_i + \varepsilon$$

where,

ΔP_i = the change in elderly FSP participation from 2000 to 2001 at site i
$X1_i$ = the number of elderly FSP participants in 2000 at site i
$X2_i$ = the percent of all elderly that participated in the FSP in 2000 at site i
$X3_i$ = the percent change in elderly FSP participation from 1999 to 2000 at site i
$X4_i$ = the percent of the population that was nonwhite in 2000 at site i
$X5_i$ = the percent of the population that was elderly in 2000 at site i
$X6_i$ = the population density in 2000 at site i

Table B.1: Final Weights for Similarity Index

Characteristic	Weights for County Sites	Weights for Town Sites
Number of elderly FSP participants	0.10	0.18
Percent of all elderly that participated	0.26	0.34
Percent change in elderly FSP participation	0.16	0.21
Percent of the population that was nonwhite	0.27	0.10
Percent of the population that was elderly	0.14	0.12
Population density	0.07	0.05
N	210	156
R^2	0.1359	0.0950

Because these relationships could be affected by whether the pilot site is a county or a town, this regression was estimated twice: once to create weights for the five states that had county pilot sites (Arizona, Florida, Maine, Michigan, and North Carolina) and once to create weights for the state that had town pilot sites (Connecticut). The county-level

equation was estimated using data from all counties in Arizona, Florida, Maine, and North Carolina. (Michigan data were not available when these weights were created.) The town-level equation was estimated using data from all towns in Connecticut. Table B.1 presents the final weights developed through these equations.

In states with county pilot sites, the similarity index gave the most weight to the percent of the population that was nonwhite and the percent of all elderly that participated when identifying similar sites. In Connecticut, which had town pilot sites, the similarity index gave the most weight to three factors: the percent of all elderly that participated, the percent change in elderly participation, and the number of elderly participants.

To identify preliminary comparison sites for each pilot site, we selected those sites with the lowest similarity index score. When possible, we selected all counties with a similarity score lower than 10.0 (implying that the county's characteristics are 90 percent similar to those of the demonstration county). In two cases (Pinal County in Arizona and Waldo County in Maine), no counties had index scores below 10.0. For those counties, the comparison groups consisted of those counties with the lowest index scores.

We sent the list of preliminary comparison sites to the demonstration staff in each state. We then asked the staff to respond to questions such as:

- Do any of the preliminary comparison sites have different FSP service environments for the elderly? For example, are there any currently with elderly application procedures that differ from the procedures in the pilot site?

- Do any of the preliminary comparison sites have substantially different food stamp usage circumstances? For example, if the pilot site has an adequate number of grocery stores, are there any sites on the list with so few grocery stores as to be markedly different?

- Do any of the preliminary comparison sites have unique FSP outreach efforts that differ from outreach at the pilot site? For example, are there any sites with unique efforts to increase knowledge of FSP eligibility?

- Are any of the preliminary comparison sites significantly different from the pilot site in terms of complements and alternatives to the FSP? For example, is there any site with substantially more or fewer food pantries, congregate meal sites, Meals on Wheels, etc.?

- Is transportation to the FSP office for the elderly significantly easier or more complicated in any of the preliminary comparison sites than it is for elderly at the pilot site?

- Do any of the preliminary comparison sites not make a good comparison with the pilot site for some other reason?

- Are there any other sites in the state that are a good match with the pilot site?

B: Selection of Comparison Sites

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- In general, state representatives identified few problems with the initial comparison site lists. One county in Michigan and one in Florida were removed as sites from the preliminary comparison group and the final comparison group was created for each pilot site. We did not add any sites based on comments from state staff. Table B.2 presents the similarity indexes of selected comparison sites for Arizona, Florida, Maine, Michigan, and North Carolina.

- In some cases, these original comparison sites were selected using data that was more than one year old. After the start of the demonstrations, the similarity index was reconstructed using updated data. In particular, county FSP participation data was used from the month immediately prior to the demonstration, and other county characteristics were updated using 2002 Census Bureau projections. In most cases, this led to little or no changes to the comparison group for each demonstration. In those instances where the comparison group was different under the revised criteria, using the revised group of comparison sites did not substantially alter the estimated participation impacts. In this report, findings are presented relative to the original comparison groups presented in Table B.2.

The process to select comparison sites for Connecticut's commodity alternative demonstration involved more steps than the process in other states because Connecticut's pilot was implemented in multiple towns, as opposed to one or two counties. The Community Resource Team (CRT) in Hartford distributed commodities for the demonstration. The CRT runs local Meals on Wheels (MOW) and congregate meal programs, and the demonstration built upon these existing programs. There are 19 towns in the Hartford region—including the city of Hartford—that have both MOW and congregate meal programs operated by the CRT. The Connecticut commodity alternative demonstration was designed to be implemented in 10 of these towns.

MPR worked with the demonstration staff to select the 10 pilot sites from the 19 potential sites. First, the city of Hartford was assigned to the pilot group, due to its size. The town of New Haven was selected as the comparison site for Hartford because no other Hartford area town could serve as a reasonable comparison site in terms of size and other characteristics. (For instance, New Haven has both congregate meals and MOW services.) Nine of the remaining 18 towns were then randomly selected to be pilot sites. Because the pool of potential pilot sites was small, and because comparisons were to be made between the nine pilot towns (excluding Hartford) and the nine Hartford-region comparison towns, we wanted to ensure that the pilot towns resembled the comparison towns. To do this, we

Table B.2: Similarity Index Scores and Comparison Groups

County	Similarity Index	Elderly FSP Participants			Nonwhite Population (Percent)	Age 65+ Population (Percent)	Population Density
		Total	Participation Rate	Percent Change in Participation			
Arizona - Pinal County							
Pilot County							
Pinal County	0.0	638	2.0	11.1	29.6	16.2	34
Comparison Group							
Yuma County	5.5	756	2.9	5.9	31.7	16.5	29
Gila County	9.4	207	2.0	5.1	22.2	19.8	11
Mean	7.5	482	2.4	5.5	26.9	18.2	20
Arizona - Yavapai County							
Pilot County							
Yavapai County	0.0	449	1.2	14.8	8.1	22.0	21
Comparison Group							
Mohave County	4.8	663	2.1	13.3	9.9	20.5	12
Florida - Gadsden County							
Pilot County							
Gadsden County	0.0	594	6.1	-9.5	61.3	12.2	471
Comparison Group							
Jackson County	21.9	463	4.1	-5.9	29.8	14.6	404
Hamilton County	15.2	93	3.8	-7.9	41.2	11.2	87
Madison County	15.4	224	5.2	-2.6	42.5	14.6	191
Florida - Leon County							
Pilot County							
Leon County	0.0	877	2.9	-4.6	33.6	8.3	815
Comparison Group							
Alachua County	6.6	1,209	3.8	-3.0	26.5	9.6	971
Duval County	4.8	3,420	2.5	-0.4	34.2	10.5	2,946
Jackson County	8.0	463	4.1	-5.9	29.8	14.6	404
Escambia County	8.0	1,583	2.6	-0.7	27.6	13.3	1,347
Orange County	8.4	5,395	3.8	3.0	31.4	10.0	4,236
Hamilton County	8.7	93	3.8	-7.9	41.2	11.2	87
Hardee County	10.0	314	5.4	-5.1	29.3	13.9	214
Maine							
Pilot County							
Waldo County	0.0	511	10.4	-2.9	2.1	13.6	50
Comparison Group							
Franklin County	15.3	369	8.8	2.5	2.0	14.2	17
Michigan							
Pilot County							
Genesee	0.0	2,506	2.9	8.6	24.7	11.6	681
Comparison Group							
Saginaw	5.7	1,284	2.6	5.2	24.7	13.5	260
Ingham	6.1	1,334	2.9	6.3	20.5	9.4	500
Muskegon	8.4	1,182	3.0	13.2	18.7	12.9	334
Berrien	9.5	1,067	2.5	5.3	20.3	14.4	285
Kalamazoo	9.9	1,066	2.4	7.5	15.4	11.4	425
North Carolina							
Pilot County							
Alamance County	0.0	484	1.6	2.1	24.4	14.1	303
Comparison Group							
Rowan County	5.0	601	1.9	-1.3	20.0	14.0	255
Iredell County	7.6	326	1.4	-2.1	17.8	12.4	214
Stanly County	8.2	275	1.9	6.2	15.3	14.2	147
Cleveland County	8.2	755	3.5	1.6	23.2	13.5	208
Burke County	8.9	395	2.1	-1.5	14.0	13.4	176
Orange County	9.5	323	2.1	-2.1	22.0	8.4	296
Catawba County	9.7	657	2.4	4.8	15.0	12.3	354
Rockingham County	10.0	739	3.2	-3.3	22.7	14.8	162

B: Selection of Comparison Sites

constructed nine pairs of towns where each pair contained two towns that were similar to each other (similarity was measured using the similarity index). We then randomly selected one town from each pair to be a pilot site and the other to be a Hartford-region comparison site. Table B.3 shows the 10 pilot and 10 corresponding Hartford-region comparison sites.

In this report, the results for Connecticut were presented by pooling the demonstration towns and comparing the participation trends with the pooled comparison towns. Because so few elderly households enrolled in the commodity demonstration in Connecticut, there was little information gained by examining demonstration participation patterns by individual pairings.

Elderly participation trends in the comparison sites selected for each demonstration site are used to compute the impact estimates presented in Chapter III. While prior participation trends were not the only factor used to select comparison sites, they were a primary factor. In most cases, the participation patterns in these sites were similar to the patterns observed in the demonstration sites in the 9 months leading up to the demonstration (Figure B.1).[7] In particular, trends in comparison sites in Arizona (both counties), Florida (Gadsden County), Michigan and Connecticut were similar prior to the demonstration.

Table B.3: Matched Comparisons for Connecticut

Pair Number	Town	Group	Similarity Index[a]	Total	Participation Rate	Percent Change in Participation	Nonwhite Population (Percent)	Age 65+ Population (Percent)	Population Density
1	Hartford	Pilot	33.9	2,695	21.1	0.3	78.3	9.8	7553
1	New Haven	Comparison	17.7	1,902	13.1	0.0	57.8	11.8	6529
2	Hebron	Comparison	99.8	3	0.6	-50.0	3.1	6.0	220
2	Stafford	Pilot	79.1	35	2.4	2.9	4.3	12.2	203
3	South Windsor	Pilot	78.5	28	1.2	7.7	8.9	10.4	809
3	Southington	Comparison	78.3	81	1.6	-4.7	3.9	13.4	1067
4	Enfield	Pilot	78.1	68	1.3	-5.6	7.7	12.8	1271
4	Plymouth	Comparison	76.0	22	1.4	15.8	2.3	12.8	556
5	Berlin	Comparison	75.7	20	0.7	0.0	4.2	16.8	655
5	East Windsor	Pilot	74.7	29	2.2	11.5	8.8	13.5	379
6	Bristol	Comparison	73.4	200	2.4	-8.7	7.6	14.3	2234
6	Windsor	Pilot	70.7	100	2.5	-2.0	27.2	14.7	930
7	Manchester	Pilot	70.2	197	2.5	1.0	11.0	15.1	1882
7	Vernon	Comparison	69.8	101	2.6	18.8	8.7	12.8	1675
8	Windsor Locks	Pilot	68.5	29	1.5	20.8	6.7	16.3	1325
8	Newington	Comparison	67.4	67	1.3	6.3	7.2	18.8	2138
9	East Hartford	Comparison	62.4	341	4.4	0.9	22.3	16.5	2630
9	Bloomfield	Pilot	59.7	111	2.9	0.0	49.6	20.3	731
10	West Hartford	Comparison	57.0	537	4.3	3.7	11.7	22.4	2548
10	New Britain	Pilot	48.8	781	6.7	3.3	32.9	16.6	5273

[a]Similarity determined relative to the distribution of characteristics across all sites, not relative to any particular site.

[7] Trends in Figure B.1 are based on participation levels measured in 3 month intervals.

Figure B.1:   Pre-Demonstration Elderly Participation Trends In Demonstration and Comparison Sites
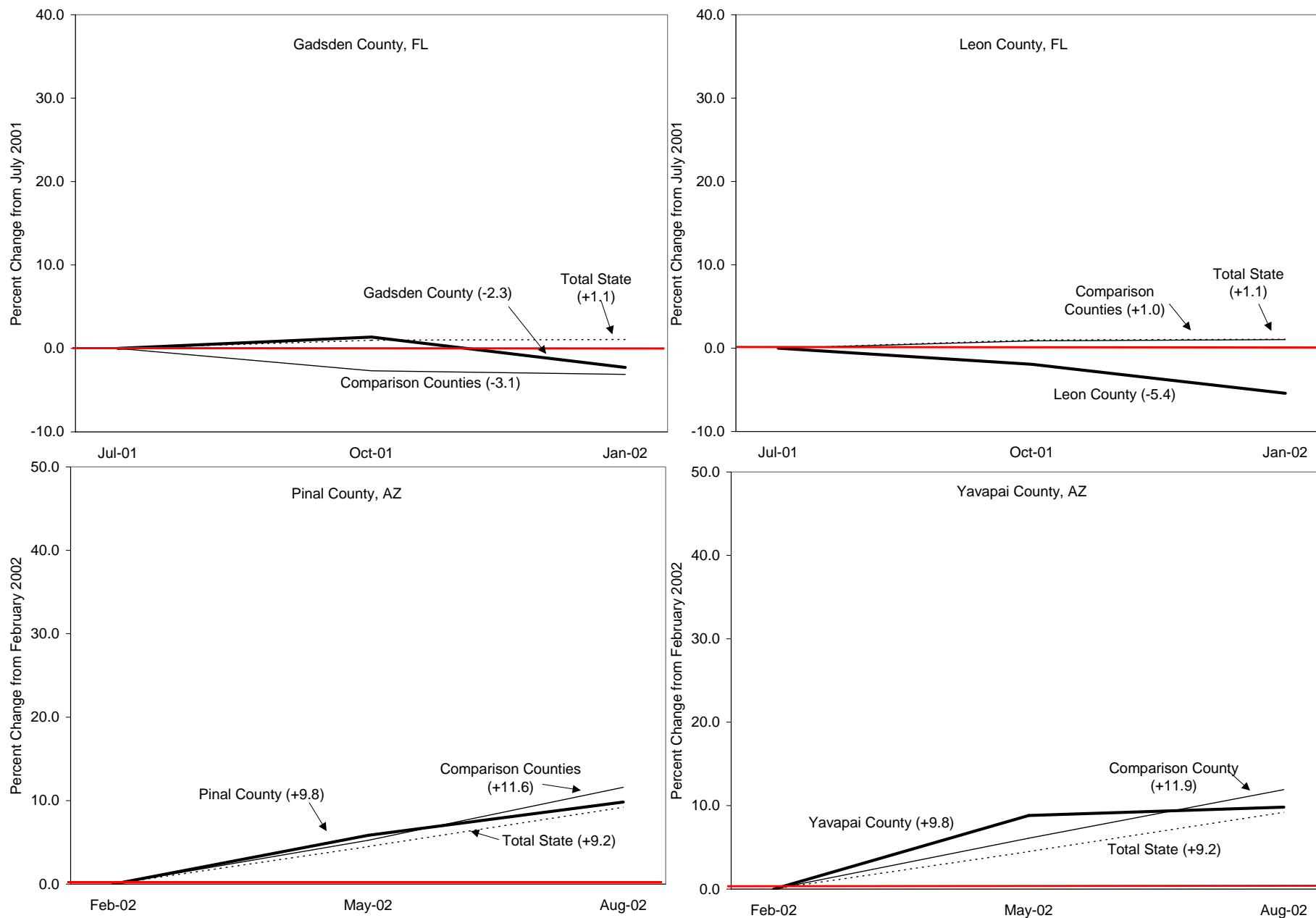
Figure B.1 *(continued)*